

#6

OIKE

RAW SEQUENCE LISTING

DATE: 07/27/2001

PATENT APPLICATION: US/09/724,571

TIME: 13:06:05

Input Set : A:\USNEW2C4.txt

Output Set: N:\CRF3\07272001\I724571.raw

ENTERED

4 <110> APPLICANT: Anderson, John P.
5 Basi, Gurigbal
6 Doane, Minh Tam
7 Frigon, Normand
8 John, Varghese
9 Power, Michael
10 Sinha, Sukanto
11 Tatsuno, Gwen
12 Tung, Jay
13 Wang, Shuwen
14 McConlogue, Lisa
16 <120> TITLE OF INVENTION: Beta-Secretase Enzyme Compositions and
17 Methods
19 <130> FILE REFERENCE: 228-US-NEW2C4
21 <140> CURRENT APPLICATION NUMBER: 09/724,571
22 <141> CURRENT FILING DATE: 2000-11-28
24 <150> PRIOR APPLICATION NUMBER: US 09/501,708
25 <151> PRIOR FILING DATE: 2000-02-10
27 <150> PRIOR APPLICATION NUMBER: 60/119,571
28 <151> PRIOR FILING DATE: 1999-02-10
30 <150> PRIOR APPLICATION NUMBER: 60/139,172
31 <151> PRIOR FILING DATE: 1999-06-15
33 <160> NUMBER OF SEQ ID NOS: 104
35 <170> SOFTWARE: FastSEQ for Windows Version 4.0
37 <210> SEQ ID NO: 1
38 <211> LENGTH: 1503
39 <212> TYPE: DNA
40 <213> ORGANISM: Homo sapiens
42 <400> SEQUENCE: 1
43 atggcccaag cctgcctctg gctcctgctg tggatgggag cgggagtgct gcctgcccac 60
44 ggcacccagc acggcatccg gctgcccctg cgcagcggcc tggggggcgc cccctgggg 120
45 ctgcggctgc cccgggagac cgacgaagag cccgaggagc ccggccggag gggcagcttt 180
46 gtggagatgg tggacaacct gaggggcaag tcggggcagg gctactacgt ggagatgacc 240
47 gtgggcagcc cccgcagac gctcaacatc ctggtggata caggcagcag taactttgca 300
48 gtgggtgctg cccccaccc cttcctgcat cgctactacc agaggcagct gtccagcaca 360
49 taccgggacc tcgggaaggg tgtgtatgtg ccctacaccc agggcaagtg ggaaggggag 420
50 ctgggcaccg acctggttaag catcccccat ggcccacacg tcaactgtgc tgccaacatt 480
51 gctgccaatc ctgaatcaga caagtctctc atcaacggct ccaactggga aggcatcctg 540
52 gggctggcct atgctgagat tgccaggcct gacgactccc tggagccttt ctttgactct 600
53 ctggttaaagc agaccacagt tcccaacctc ttctcctgc agctttgtgg tgctggcttc 660
54 cccctcaacc agtctgaagt gctggcctct gtcggaggga gcatgatcat tggaggtatc 720
55 gaccactcgc tgtacacagg cagtctctgg tatacaccca tccggcggga gtggtattat 780
56 gaggtgatca ttgtgcgggt ggagatcaat ggacaggatc tgaaaatgga ctgcaaggag 840
57 tacaactatg acaagagcat tgtggacagt ggcaccacca accttcgttt gccaagaaa 900
58 gtgtttgaag ctgcagtcaa atccatcaag gcagcctcct ccacggagaa gttccctgat 960
59 ggtttctggc taggagagca gctggtgtgc tggcaagcag gcaccacccc ttggaacatt 1020
60 ttccagtcga tctcactcta cctaattgggt gaggttacca accagtcctt ccgcatcacc 1080

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61 atccttccgc agcaatacct ggggccagtg gaagatgtgg ccacgtccca agacgactgt      1140
62 tacaagtttg ccatctcaca gtcattccacg ggcactgtta tgggagctgt tatcatggag      1200
63 ggctttctacg ttgtctttga tggggcccg aaacgaattg gctttgctgt cagcgcttgc      1260
64 catgtgcacg atgagttcag gacggcagcg gtggaaggcc cttttgtcac ctgggacatg      1320
65 gaagactgtg gctacaacat tccacagaca gatgagtcaa ccctcatgac catagcctat      1380
66 gtcattggtg ccatctgcgc cctcttcatg ctgccactct gcctcatggt gtgtcagtgg      1440
67 cgctgcctcc gctgcctgcg ccagcagcat gatgactttg ctgatgacat ctccctgctg      1500
68 aag                                                                    1503
70 <210> SEQ ID NO: 2
71 <211> LENGTH: 501
72 <212> TYPE: PRT
73 <213> ORGANISM: Homo sapiens
75 <400> SEQUENCE: 2
76 Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
77 1 5 10 15
78 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
79 20 25 30
80 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
81 35 40 45
82 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
83 50 55 60
84 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
85 65 70 75 80
86 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
87 85 90 95
88 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
89 100 105 110
90 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
91 115 120 125
92 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
93 130 135 140
94 Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
95 145 150 155 160
96 Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
97 165 170 175
98 Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
99 180 185 190
100 Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
101 195 200 205
102 Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
103 210 215 220
104 Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
105 225 230 235 240
106 Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
107 245 250 255
108 Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
109 260 265 270
110 Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
111 275 280 285

```

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```

112 Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
113      290                      295                      300
114 Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
115 305                      310                      315                      320
116 Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
117                      325                      330                      335
118 Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
119                      340                      345                      350
120 Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
121                      355                      360                      365
122 Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
123      370                      375                      380
124 Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
125 385                      390                      395                      400
126 Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
127                      405                      410                      415
128 Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
129                      420                      425                      430
130 Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
131                      435                      440                      445
132 Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
133      450                      455                      460
134 Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
135 465                      470                      475                      480
136 Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp
137                      485                      490                      495
138 Ile Ser Leu Leu Lys
139      500
141 <210> SEQ ID NO: 3
142 <211> LENGTH: 24
143 <212> TYPE: DNA
144 <213> ORGANISM: Homo sapiens
146 <400> SEQUENCE: 3
147 gagagacgar garccwgagg agcc
149 <210> SEQ ID NO: 4
150 <211> LENGTH: 24
151 <212> TYPE: DNA
152 <213> ORGANISM: Artificial Sequence
154 <220> FEATURE:
155 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
156      ID NO: 2
158 <400> SEQUENCE: 4
159 gagagacgar garccwgaag agcc
161 <210> SEQ ID NO: 5
162 <211> LENGTH: 24
163 <212> TYPE: DNA
164 <213> ORGANISM: Artificial Sequence
166 <220> FEATURE:
167 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ

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```

168      ID NO: 2
170 <400> SEQUENCE: 5
171 gagagacgar garccwgaag aacc                                24
173 <210> SEQ ID NO: 6
174 <211> LENGTH: 24
175 <212> TYPE: DNA
176 <213> ORGANISM: Artificial Sequence
178 <220> FEATURE:
179 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
180      ID NO: 2
182 <400> SEQUENCE: 6
183 gagagacgar garccwgagg aacc                                24
185 <210> SEQ ID NO: 7
186 <211> LENGTH: 23
187 <212> TYPE: DNA
188 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
192      ID NO: 2
194 <400> SEQUENCE: 7
195 agagacgarg arccsgagga gcc                                23
197 <210> SEQ ID NO: 8
198 <211> LENGTH: 23
199 <212> TYPE: DNA
200 <213> ORGANISM: Artificial Sequence
202 <220> FEATURE:
203 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
204      ID NO: 2
206 <400> SEQUENCE: 8
207 agagacgarg arccsgaaga gcc                                23
209 <210> SEQ ID NO: 9
210 <211> LENGTH: 23
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
215 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
216      ID NO: 2
218 <400> SEQUENCE: 9
219 agagacgarg arccsgaaga acc                                23
221 <210> SEQ ID NO: 10
222 <211> LENGTH: 23
223 <212> TYPE: DNA
224 <213> ORGANISM: Artificial Sequence
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
228      ID NO: 2
230 <400> SEQUENCE: 10
231 agagacgarg arccsgagga acc                                23
233 <210> SEQ ID NO: 11

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Input Set : A:\USNEW2C4.txt

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```

234 <211> LENGTH: 23
235 <212> TYPE: DNA
236 <213> ORGANISM: Artificial Sequence
238 <220> FEATURE:
239 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
240     ID NO: 2
242 <400> SEQUENCE: 11
243 cgtcacagrt trtcaaccat ctc                                     23
245 <210> SEQ ID NO: 12
246 <211> LENGTH: 23
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
252     ID NO: 2
254 <400> SEQUENCE: 12
255 cgtcacagrt trtctaccat ctc                                     23
257 <210> SEQ ID NO: 13
258 <211> LENGTH: 23
259 <212> TYPE: DNA
260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
264     ID NO: 2
266 <400> SEQUENCE: 13
267 cgtcacagrt trtccaccat ctc                                     23
269 <210> SEQ ID NO: 14
270 <211> LENGTH: 23
271 <212> TYPE: DNA
272 <213> ORGANISM: Artificial Sequence
274 <220> FEATURE:
275 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
276     ID NO: 2
278 <400> SEQUENCE: 14
279 cgtcacagrt trtcgaccat ctc                                     23
281 <210> SEQ ID NO: 15
282 <211> LENGTH: 23
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: Degenerate oligonucleotide primer derived from SEQ
288     ID NO: 2
290 <400> SEQUENCE: 15
291 cgtcacagrt trtcaaccat ttc                                     23
293 <210> SEQ ID NO: 16
294 <211> LENGTH: 23
295 <212> TYPE: DNA
296 <213> ORGANISM: Artificial Sequence
298 <220> FEATURE:

```

→ Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY

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DATE: 07/27/2001

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Input Set : A:\USNEW2C4.txt

Output Set: N:\CRF3\07272001\I724571.raw

L:378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:408 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:423 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25
L:438 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26
L:453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:468 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:483 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
L:542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34
L:557 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35
L:572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:587 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37
L:941 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:942 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:943 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:1455 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61
L:1946 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72
L:1962 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73
L:2090 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76
L:2117 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78
L:2159 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81